Alaska Highway Gas Pipeline Project

COMMUNITY INFORMATION PROGRAM

QUILL CREEK TEST FACILITY

FALL, 1981

Community Relations

Foothills Pipe Lines (South Yukon) Ltd.
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1.0 INTRODUCTION

Foothills Pipe Lines (South Yukon) Ltd. has established the Quill Creek Test Facility situated between kilometer post 165 and kilometer post 170 on the route of the proposed Alaska Highway Gas Pipeline.

The major portion of construction activities at the site have been completed. The winter construction program lasting from November, 1980 through April, 1981 included gravel processing, right-of-way clearing, installation of instrumented 1219 mm O.D. pipe sections in both embankment and buried construction modes, installation of buoyancy test pipe sections and conducting cut slope stabilization tests in an ice-rich sidehill area. In addition various tests were performed to evaluate ditching techniques, different pipe insulation application procedures were investigated and various access road designs were constructed and evaluated.

Foothills Pipe Lines (South Yukon) Ltd. is currently investigating the feasibility of summer construction of access roads and work pads in those areas of the pipeline route in thaw unstable terrain where above grade modes of construction are planned. Foothills now proposes to undertake a 1981 Fall Construction Program at the Quill Creek Test Facility to evaluate construction procedures for building insulated and uninsulated access roads and work pads, during the period of maximum active layer thaw depth.

2.0 SCOPE OF WORK

It is proposed to construct a 200 metre long granular work pad with a top width of approximately 10 to 12 metres in the Warm Flow Test Area to the north-west of the existing access road. This pad will be divided into four distinct parts each approximately 50 metres in length. Construction modes to be tested are an uninsulated granular pad on upgraded natural ground, an insulated granular pad on ungraded natural ground and an insulated granular pad built on a frozen sub-layer after removal of the thawed active layer.

Construction of the work pads is proposed to be done from September, 1981 though mid-October, 1981 when the active layer is thawed to a maximum depth.

3.0 CONSTRUCTION

3.1 Mobilization of Equipment

All equipment needed to complete the fall construction program is expected to be available in the Whitehorse area. No movement of heavy equipment from Alberta and British Columbia is anticipated.

3.2 Materials

Pit run is to be obtained from Pit #1104 on the Alaska Highway situated about one kilometer from the proposed work area.

Suitable granular crush is available from a stockpile at the Glacier Creek Pit approximately 7 kilometers from the work site. This is material which was crushed for the winter construction program but which was excess to requirements.

Polystyrene foam insulating board remaining from the winter construction program should be sufficient for fall construction requirements.

Filter cloth will be obtained in Alberta and shipped to site. Thermistor cables and other instrumentation will be fabricated in Calgary and shipped to site.

3.3 Manpower

Manpower requirements are expected to peak at 60, consisting of truck drivers, equipment operators and laborers. It is expected that most of these people will be Yukon residents. It is expected that the work force will be housed at Foothills Quill Creek Camp during the construction period.

3.4 Site Clearing

The construction is proposed for a site which was cleared during the winter construction program.

3.5 Access

Access to the construction site will be from the existing access road constructed during the winter season along the pipeline right-of-way.

4.0 INSTRUMENTATION

Instrumentation to be installed in the fall construction program consists of 2 thermistor strings, one Petur settlement indicator and 2 plate settlement indicators for each of the four workpad sections. In addition there will be several thermistor strings installed to evaluate performance of the culvert installation.

5.0 MONITORING

The Test Site will be monitored by engineering, environmental scientists and construction specialists during the construction phase and for an extended period of time thereafter. Monitoring will include:

1. Visual Inspection
2. Photographic Recording
3. Extensive Temperature Measurements
4. Displacement Measurements

6.0 ENVIRONMENTAL PROTECTION

Studies of environmental factors along the pipeline route indicate that areas with particular sensitivity in the region of the test site are limited to a corridor used by caribou for seasonal movements from one side of the Shakwak Trench to the other, and use of Quill Creek and Burwash Creek by important fish populations. These will be monitored to ensure minimum disruption by the test project.

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ADDENDUM

Concrete Restraining Pipe Test and Water Fill Test

1.0 INTRODUCTION

In conjunction with the summer work pad construction test program at Quill Creek, Foothills Pipe Lines (Yukon) Ltd. proposes to install a section of pipeline in the concrete restrained mode. The installation will be instrumented to assess performances with regard to thermal influence in the underlaying soils and resultant pad settlement.

In addition, a water fill test of the existing pipe sections will be carried out to determine the water load effect upon pipe insulation.

2.0 SCOPE OF WORK

Two 25 meter sections of pipe will be installed end to end on insulated work pads within insulated precast concrete restraining weights. Thermistor strings under the work pad and automatic recording equipment providing for long term monitoring of performance will be installed. Heating and air circulation equipment will be installed to simulate warm gas flow in the pipe sections.

In addition, a water fill test will consist of filling with water the existing 1219 mm O.D. pipe located in the insulated burial mode section and in the embankment insulated mode section. The estimated water requirement is 386,000 litres. Dewatering will be initiated approximately 48 hours after completion of the filling operation.

3.0 MATERIALS

The 1219 mm O.D. pipe which is presently stored at a site in Alberta will be trucked to Quill Creek just prior to construction.

Concrete weights are anticipated to be manufactured by local contractors.